

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for calibrating an AGC in a MIMO-based system, the method comprising:
  - transmitting a calibration signal;
  - receiving the calibration signal;
  - decoding the calibration signal to produce a measurement;
  - storing the measurement;
  - changing an AGC gain setting; and
  - repeating the transmitting, receiving, decoding, storing, and changing operations to determine an optimal AGC gain setting.
2. (Original) The method of claim 1, wherein the transmitting, receiving, decoding, storing, and changing operations are performed by a single multiple-input-multiple-output (MIMO) wireless device.
3. (Original) The method of claim 1, wherein the transmitting, receiving, decoding, storing, and changing operations are performed for each AGC gain setting.
4. (Currently Amended) The method of claim 1, wherein transmitting a said calibration signal comprises transmitting a single frequency centered on a fast Fourier transformer bin.
5. (Currently Amended) The method of claim 1, further comprising generating a said calibration signal by applying a non-zero coefficient to an inverse fast Fourier transformer.

6. (Original) The method of claim 1, wherein decoding the calibration signal comprises using a fast Fourier transformer.
7. (Original) The method of claim 1, further comprising accessing the measurement to improve AGC performance.
8. (Original) The method of claim 1, further comprising normalizing the measurement.
9. (Currently Amended) The method of claim 1, wherein transmitting a said calibration signal comprises prepending a cyclic prefix to the calibration signal.
10. (Original) A MIMO-based system comprising an AGC, wherein the AGC is calibrated by way of an iterative process, the iterative process comprising:
  - transmitting a calibration signal;
  - receiving the calibration signal;
  - decoding the calibration signal to produce measurements;
  - storing the measurements; and
  - changing an AGC gain setting.
11. (Original) The system of claim 10, wherein the iterative process is repeated for each AGC gain setting.
12. (Original) The system of claim 10, wherein the AGC comprises a controller and at least one adjustable gain amplifier.
13. (Original) The system of claim 10, wherein the calibration signal comprises a single frequency centered on a fast Fourier transformer bin.

**Appl. No. 10/735,380  
Amdt. dated January 3, 2007  
Reply to Office Action of November 6, 2006**

14. (Original) The system of claim 10, wherein the measurements are used to improve performance of the system.

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Currently Amended) A communication device comprising an AGC in a MIMO-based system, wherein the communication device is adapted configured to calibrate the AGC by performing for each AGC gain setting an iterative process, the iterative process comprising:

- receiving a calibration signal;
- decoding the calibration signal to produce measurements; and
- storing the measurements.

21. (Original) The communication device of claim 20, wherein the AGC comprises a controller and at least one adjustable gain amplifier.